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ADDITIONAL NOTICES.

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1. *A Boat Journey across the Northern End of FORMOSA, from Tam-suy, on the West, to Kee-lung, on the East; with Notices of Hoo-wei, Mangha, and Kelung.* By Dr. COLLINGWOOD, F.L.S.

TAM-SUY is situated on the north-western coast of Formosa, and possesses an excellent harbour, over the bar of which H.M.S. *Serpent*, drawing 12½ feet water, passed easily at high water. The entrance is unmistakably marked by two lofty and picturesque hills—that on the left, termed the Kwang-yin Hill, having two prominent peaks, of 1720 and 1240 feet respectively—and that on the right, the Tai-tun Hills, forming an imposing ridge, of which the summit is 2800 feet high. From land to land, at the entrance of the harbour, is just half a mile; but a considerable spit of sand diminishes it more than one-half. Within the harbour, however, it rapidly increases to three-quarters of a mile and even a mile in width, affording good anchorage for large vessels. Immediately on the left hand, on entering, is a small Chinese fort; and half a mile higher are the ruins of an old Dutch fort,—a square, red-brick, casemated building, once, no doubt, of great strength, and elevated 50 or 60 feet above the water's edge. The long rambling town of Tam-suy, or *Hoo-wei*, as it is more properly called, commences a little higher; and consists, for the most part, of a narrow street of shops of a poor description, paved with great cobblestones or not at all, and in which pigs of all sizes and barking dogs dispute the passage, which in some places scarcely admits of two passengers passing one another. The Vice-Consul (Mr. Gregory) resides here, as well as three or four other Europeans, engaged in mercantile affairs or employed in the Chinese customs. The consulate, however, is but a poor building for the representative of Great Britain; for the inhabitants, who are mostly coolies, and upon occasion are a turbulent set of rascals, have a *prejudice*, forsooth, against building houses more than one storey high, and no such dwelling exists in Hoo-wei.

There is a very pretentious joss-house in the town, of which the stone pillars, elaborately carved, represent, with considerable cleverness, fantastic dragons encircling the columns in high relief—workmen being yet engaged in the task. The immediate neighbourhood is hilly, having numerous scattered houses; and a large amphitheatre, just outside the town, forms an immense and well-filled burial-ground, upon which grows abundance of the rice-paper plant (*Aralia papyrifera*), which is largely exported from this neighbourhood. The soil is very fertile, consisting of a considerable depth of alluvium, in which are numerous angular and rounded blocks of stone, some of very great size.

The inhabitants of Hoo-wei (Tam-suy), as of the other towns in the route, are mostly poor and meanly clad—the males wearing usually nothing more than a pair of short drawers, or some substitute for them—some of the younger male children going entirely naked. The women and girls, however, are always decently clothed, very few of the female children being even naked to the waist. Bandaged feet are universal among them.

Rice is abundantly produced in the neighbourhood; but its exportation is forbidden by the Government, on pretence that there is not more produced than is required for home consumption; but by a roundabout method, a considerable trade is, notwithstanding, carried on, to the advantage of the Mandarins. Bullocks, goats, and poultry are difficult to obtain; but pigs are

abundant, though few who could witness their disgusting habits and foul feeding would care to eat them. Ducks also are plentiful.

An inferior Mandarin resides here, named Lim-ching-fang, but he is subordinate to the Mandarin of the Tam-suy District, of which Hoo-wei is but an inferior town—the chief town being Mangka, or Bangka.

Having obtained a *sampan*, or native boat, with three men, we placed in it provisions for two days, camera, collecting apparatus, &c., intending to proceed leisurely. The boat was a flat-bottomed one, adapted for the peculiar navigation, about 20 feet long and 6 feet wide, covered with a bamboo awning, and having a grass mat at the bottom; and, with the aid of a large mat-sail and a sea-breeze, we rapidly proceeded up the Tam-suy River. For the first 4 miles the stream is of varying width, averaging about a mile, and running in a south-easterly direction at the foot of the Kwang-yin Hills, which seen in the light of a western sun have a remarkably piled-up or cone-in-cone appearance, and at the base appear to be perforated with caverns. On the right bank a cultivated plain stretches to the foot of the Tai-tun Hills, which expand to the eastward as we proceed. At length at a village, called Kan-tow, the stream divides, the left arm continuing in a south-easterly direction through a flat country, in which rice and sugar and maize are cultivated, and a straight reach of $3\frac{1}{2}$ miles brings us to Twa-tu-teen, a large village where the stream trends to the south; and another mile and a half brings us to Mangka, the chief town of the district of Tam-suy. This is a large town, abounding in the narrow and unsavoury streets before mentioned—one side being covered over by a sort of arcade, the other side open, but by far the dirtier of the two, being chiefly occupied by pigs and children, which both swarm everywhere. Accumulations of filth lie about at the very doors of the inhabitants, and it is not unusual to see women adorned with bright and gaudy finery sitting within a foot or two of a pool of seething filth, enough to breed a pestilence. Chairs or sedans are to be had here, and in one of these I perambulated the town; but in some places the corners of the streets were so narrow, that it was with the utmost difficulty that the vehicle could turn them, and then only by a series of ingenious manœuvres. A single European merchant resides here, Mr. Mallisch of Hamburg, occupying a handsome two-storied house, the only one I have seen in those parts, it being “against joss” to raise one storey above another.

In making the journey from Tam-suy to Kelung, the other arm of the river *e. by s.* is followed, which does not lead by Mangka; but I have referred to this arm, because it leads to that place which I had visited previously in company with Captain Bullock, of H.M.S. *Serpent*, and Mr. Gregory, the Vice-Consul. On this occasion we paid a visit to the military Mandarin of the district, Ching-yung, with whom an appointment had been made, and who received us with official formality. His residence was situated just outside the town, and a salute of three guns greeted us as we entered the enclosure. Having seated ourselves in the audience-chamber, tea was served in cups of egg-shell china, by a number of attendants, when they had succeeded in chasing out the ragged crowd which had curiously followed us into the *sanctum*. The Mandarin was decorated with a clear blue button and peacock's feather, and appeared an intelligent and superior man of about 35 years of age. He conversed freely through the medium of Mr. Gregory, who acted as interpreter, and, after remaining some twenty minutes, we quitted the place with the same formalities as on entering, the Mandarin having first accepted Captain Bullock's invitation to visit the ship at Hoo-wei the next day, which happened to be Her Majesty's birthday, a promise which he did not fail to keep.

Mangka derives considerable importance from the fact that large junks come thus far, and one arm of the river which divides just beyond flows from San-Kop-yung, which is the district producing large quantities of camphor; and here the junks load with that important commodity derived from *Laurus cam-*

phora. But the trade is at present of little value to any one, except those to whom a monopoly is granted by the Chinese Government. The camphor Mandarin pays 40,000 dollars per annum for this privilege, and he purchases the camphor at the rate of 5 dollars per picul (of 133 lbs.), which he then sells for 27 dollars. One dollar as duty and some other expenses increase the price he has to pay, and 10 per cent. of the camphor is lost in the transit by evaporation owing to imperfect storage, for with the proverbial conservatism of their nation they will not adopt the plan of stowing it in tin boxes, by which it might all be saved. Still, however, the profits are very considerable. I believe that an enterprising young German merchant, Mr. Lessler, of Tamsuy, is about to bring the question of the legality of this monopoly to issue in a court of law, and I trust that this important trade will soon be open to competition by European merchants.

The other branch of the river in this direction is navigable for boats up a series of rapids, to the borders of the aborigines' country, as I am informed by Mr. Gregory, to whom I am indebted for much that is interesting in connexion with this subject.

Returning now to where the river first divides at Kan-tow, we follow the right-hand branch which flows e. by s. through cultivated fields, in which we occasionally meet with patches of *Boehmeria nivea*, and small groves of betel-palm (*Areca catechu*); but the characteristic tree of the banks here, as everywhere along the river, is the bamboo, whose graceful and feathery foliage gives a great charm to the scene. On the north-east side are numerous hills, of heights varying between 1000 and 1500 feet, amongst which are situated the remarkable sulphur-springs which I have described in another place. A little more than 3 miles brings us to the village of Pah-chie-nah, which is more airy and cleanly than either Mangka or Hoo-wei, and possesses an excellent market-place, though the inhabitants appear to be of the same poor class. Numerous duck-boats are met with on these banks, which bring some couple of hundred ducks to a feeding-ground, where they are turned loose to spend the day under the charge of a lad, who acts as duck-herd. They keep close together all day, so that they might all be covered with a blanket, and at night are conveyed in the boat back to their pens. Another feature of the route is the Chinese water-wheels for irrigating the fields, in which three or four Chinese are constantly at work, treadmill-fashion.

At sunset we moored our boat a mile beyond Pah-chie-nah, in a bend of the river and at the foot of a hill which commanded a magnificent view of the noble range of mountains running from north to south of the island, and which the setting sun lighted up gloriously. On the opposite side of the river, upon a steep rocky bank, was a house outside of which sat a family of Chinamen of a better class, the head of which, having examined us with a field-glass, made signs for us to go over and *chin-chin* with them. We accordingly did so, and, having partaken of their tea, offered them some of our own provisions, with which they appeared much interested, particularly the white bread, though the loaf-sugar seemed most generally appreciated.

We slept in the boat, the night being brilliantly fine, a strong dew falling towards sunrise, and the stillness being broken by the croaking of frogs, the chirping of cicadas, the occasional leaping of a large fish in the stream, the passage of boats up the river, and the distant creaking of a water-wheel which appeared to be in action all night long. A strong tide was flowing; but the water appeared perfectly fresh to the taste, even at the flood.

The following morning, after taking some photographic views, capturing some of the beautiful butterflies and beetles which, especially the former, abounded on the hills, we proceeded on our journey. The thermometer being at 89° in the shade, we were glad of our bamboo awning; and there being no wind and a strong ebb-tide, we made but little progress for some time, moving slowly by a very meandering course through a highly pictur-

esque country. Hills of varying height rose on either side, usually covered with vegetation, and occasionally opening and showing green paddy-fields, while in front of us an abrupt and very remarkable long stratified hill occupied a conspicuous part of the landscape, which we gradually approached till we reached the town of Lik-kow, behind which it was situated.

Lik-kow is similar in character to the other towns on the route; but the streets are wider than those of Mangka or Hoo-wei. The inhabitants, however, did not give us any notion of their being more simple or primitive on account of their comparative seclusion, but rather the reverse. A noisy crowd followed us through the streets, some members of which appeared to incline to impudence, and one man seemed by his loud talk and gestures to be attempting to incite others against us, while the general greeting of "*hwan-ha*" (foreigners) was heard no less here than everywhere else on the route.

Leaving Lik-kow we proceeded eastward through similar scenery, increasing, however, in its striking character, for some six miles further. A little beyond Lik-kow on the left bank, a bed of large oyster-shells, some of them 8 or 9 inches in length, arrested our attention. They are embedded in stiff blue-clay in the river's bank, and immediately over lies a thin seam of an inferior coal, which crops out beneath. The bank (which, as in most other places, was perforated with the innumerable holes of freshwater crabs), including clay, shells, and coal, is about 4 feet high above the water's edge, and the bed extends about 100 yards in length.

We arrived at the town of Chuy-teng-cha at nightfall; and here, as its name implies, the tide-way ends. As it was dark we did not land, but proceeded a little further, and passed the night in a little bay at the foot of the rapids. Numerous boats upon the beach and many in motion seemed to show that this was a busy town of some importance; and by questions put and answered, as we passed, in which we could hear from time to time the word "*hwan-ha*," we knew that they were discussing our movements and the kind of freight our boatmen had under their charge. We had no fear of them, however, for they turned out to be excellent fellows, good-tempered, willing, and obliging, and mightily amused at all our proceedings—one of them, in particular, laughing from morning till night.

On the second night, as before, we were tormented by mosquitoes, which made it difficult to obtain any rest; while the close heat of the atmosphere made us wish to divest ourselves of some of our clothing, a proceeding forbidden by the tormenting insects. Frogs and cicadas, as before, kept up a serenade all night; and a nocturnal bird sang a harsh song in some trees upon a cliff opposite. I could not get a sight of this bird, whose four notes somewhat resembled the creaking of a wheel; the last two notes being often repeated, and sometimes twice. As soon as dawn began to appear, he flew away, and I heard him no more. At the same time two or three large bats, which at first in the twilight I mistook for owls, flew home to their retreats with a loud croak.

As soon as the sun arose, a pheasant began to crow upon the fern-covered hills, and we heard and saw several during the day; but, although I landed for the purpose, I was unable to get a shot. But by far the commonest bird we met with throughout was a black bird about the size of an English ousel, with a long forked tail and whitish rump, which made a harsh note not unlike a jay. These birds were visible everywhere along the banks, usually in pairs, seldom flying over the river, and often perched upon the topmost spray of a bamboo in a conspicuous position. I procured the nest and eggs of this bird. The nest was made of dried grass and cotton-grass, simple in form, and situated upon the bough of a tree about 15 feet from the ground; the eggs were three in number—pinkish, with sparse umber spots and blotches, particularly about the larger end. The other birds I noticed were doves of a small species, kingfishers, pied wagtails, and grey shrikes. Early in the

morning, a lark singing in the fields could scarcely be distinguished from the English skylark, and another bird's song reminded me greatly of the English song-thrush. Another thrush-like bird also was in song; but not more than half-a-dozen birds could be said to be in song at a time, when nearly thirty would be enlivening the woods and groves of England.

Having passed the end of the tide-way, the remainder of the journey was made through a series of strong rapids, up which it was necessary to drag the boat by main force. They commenced immediately from our resting-place of the previous night, and our boatmen jumped out at the bows, and passing a bamboo across them pushed one on each side, while the third pushed behind, and thus our flat-bottomed craft moved up the incline into a reach of deep water. This proceeding was repeated perhaps a score of times, the intervening reaches being bounded by very beautifully wooded hills, with precipitous rocks dipping to the water's edge about 15° to the east. Many beautiful secluded retreats were thus passed, generally, however, with signs of life near them; for it is remarkable how densely populated this side of the island appears to be—nowhere can you go without meeting Chinese in some form or other: in the quietest and most retired spots, a cottage may often be descried upon close inspection. If you wish to shoot a bird among the brushwood, you will be most likely to find a group of women and children peering at you from behind; if it is on the bank, some fisherman at work, or lads wading in the mud for shell-fish, or women washing in the stream, are sure to be there, so that it is never safe to shoot, except at the upper part of the trees. Ferries were numerous, and generally at work as we passed; water-wheels were met with at every turn, generally worked by three men, or two sets of three; children leading water-buffaloes on the bank were frequently seen, and the unwieldy heads of these animals often peered at us above the water with a mingled expression of curiosity and stupidity; and even in the midst of the stream were Chinamen and boys, sometimes stark naked, but more frequently with something about the loins, dredging for shell-fish and crabs in the river—for everything is fish that comes to the Chinaman's net, and he is always at work, even in the most unpromising situations, to earn a livelihood in a mud-bank, or a sand-flat, or up to his neck in water in a river. Population teemed everywhere, and, while in England you might walk for miles without meeting an individual, we were scarcely ever out of sight of some human being in this part of Formosa. Their houses are built of mud and thatched, occasionally more substantially of brick and tiles, but usually of grass and reeds, which are arranged in tiers, and plastered over with mud and cement,—the floor, even of the better houses, of mud or earth,—the roofs, often crescentically gabled, gave the town a very characteristic appearance. In the poorer houses in villages, the pigs and fowls made themselves quite at home in the interior, and I have seen a large cesspool only partially separated from the dwelling-room. Pigs, fowls, ducks, geese, and buffaloes are the only domestic animals, if we except the dogs and cats. The cats usually of the Japanese breed, with a short broken or twisted tail, and usually tortoise-shell in colour; the dogs are usually black, seldom white, of an ugly mongrel appearance, about the size of a pointer, and bark vigorously as soon as they catch sight of a foreigner, though there is no fear of their biting, provided you carry a stick, being the most arrant cowards. Horses and asses are unknown, and humped cattle, of a small size, rare.

At length we entered a narrow gorge of rocks, which only left room for two boats to pass one another, and warned us that the aquatic part of our excursion was at an end, and in a few minutes we were in the midst of a number of boats the counterparts of our own, which completely lined a beach about 100 yards long, scarcely leaving space for the painted nose of our own craft to insinuate itself between them. Here were clustered some houses forming the village of Liang-kha, about three miles from Kelung, where the river we had

ascended abruptly terminated on the shoulder of a hill, up which we had risen by a series of rapids, another and a smaller stream branching off from the same spot, and descending the other side towards Kelung.

Having placed our gear in a chair obtained from Kelung, we proceeded on foot through a pass on the hills, meeting on the way numerous coolies transporting goods of various kinds from Kelung. Some carried heavy bundles of dressed hemp; others, barrels of dried flying-fish of a large size. A sudden turn of the road brought us in view of a splendid panorama—the valley, town, and spacious harbour of Kelung, forming altogether a fine picture. On the densely wooded knolls in the valley, tree-ferns were conspicuous; the sandstone hills on the left dipped in long stratified lines to the south-west; and outside the harbour, in which three square-rigged ships, as well as numerous junks, were lying at anchor, stood like a sentinel an abrupt rock, 600 feet high, known as Kelung Island, and bearing a great resemblance to St. Michael's Mount. On the right was the interesting coal-region, which renders Kelung so important a port, in which good anchorage and plenty of fuel may be always readily obtained.

The town of Kelung differs in no respect from the other towns of North Formosa. It is situated at the very head of the bay which constitutes Kelung Harbour, and consequently a long way from the anchorage: for the upper part of the harbour is a mere mud-flat at low-water, with a narrow channel in the midst, scarcely deep enough for the native sampans, although small junks do go high up and ground with every tide. The harbour, however, opens out into a fine bay between two ranges of hills, measuring from Kelung town to the entrance fully two miles, and in its widest part upwards of a mile wide. The entrance measures three-eighths of a mile in width, opening to the north-west. In such a spacious harbour, with few dangers, it might be supposed that a large number of ships might safely anchor; but unfortunately the short-sightedness of the Chinese authorities permits it to deteriorate rapidly, and, what is worse, the indolence of the people is producing effects of the most fatal kind; for when ships arrive in ballast, the boatmen, instead of taking it on shore, throw it into the harbour, and thus quickly accumulate the obstructions which it should be their care to remove. I myself saw this going on, and am assured that the harbour has very materially degenerated during the last two years in consequence. The harbour of Tam-suy is undergoing the same change; and at Takan-con, although it is forbidden to ships to throw overboard their ballast, the Chinese coolies, who are hired to take it away, convey it a few yards and throw it out of their boats.

The harbour of Kelung is hollowed out of the sandstone strata which are here very thick, and inclined at an angle of about 15° . The cliffs are worn into numerous picturesque ravines on either side, which are mostly well wooded and have several villages and hamlets scattered along their bases. On the north-eastern shore are several natural caverns, some mere clefts in the rock, and others penetrating to a considerable distance—all overgrown with drooping ferns, club-mosses, and begonias. The largest has a spacious entrance and penetrates as a vaulted arch for about 50 yards. On the left-hand side, however, is a narrow cleft just large enough to admit a man; through this we crept with difficulty a distance of 70 or 80 yards, when it expanded into a moderate-sized chamber, which we illuminated with the magnesium light, but discovered no passage beyond. At the very extremity of this cavern, the walls of which were of bare sandstone and dripping with the water which was percolating plentifully through them, a number of crickets (*Acheta*) had taken up their abode; though what could be the inducement, or what they could feed upon, it would be difficult to say. Unlike the inhabitants of caves generally, they had perfectly well-developed eyes, and I could only regard them as insects which had strayed in by accident.

Palm Island, at the entrance of the harbour, produces no palm-trees, as its

name would seem to indicate; but they are represented by cycads, which have probably been mistaken for them. This island presents unmistakable indications of having risen above its former level in comparatively recent times, and similar indications in other parts of the harbour seem to show that a gradual elevation is taking place; a circumstance which renders it more necessary to preserve the integrity of the harbour from the recklessness and ignorance of the native coolies, who misuse it in the manner previously noticed. Its importance is yearly increasing as a harbour of refuge, as a port of trade, and more particularly as a coaling-station; and its present value may be judged of from the fact that the *Serpent* was one of eight European vessels at anchor there at the same time, the others being Hamburg, Bremen, Prussian, and English ships.

2.—*On the recent Peruvian Exploration of the Rivers Ucayali, Pachitea, and Palcazu.* By MESSRS. WALLACE and MAIN.*

(Communicated to Mr. BATES, Assistant-Secretary, by M. LAURENT LETOFFÉ, of Yquitos, Peru.)

PERU has signalised herself during the last fifteen years by an earnest desire to open up to navigation and commerce those rich tracts of territory lying to the east of the Andes and watered by the majestic Amazons and its tributaries. Succeeding Cabinets have vied with each other in their efforts to promote so laudable an undertaking, and not even the distraction of a civil war, followed by a desperate struggle for national independence against foreign aggression, have been sufficient to hinder the prosecution of the enterprise. In the year 1851 the Peruvian Government concluded a treaty with Brazil relative to the navigation of the river Amazons, declaring at the same time her portion of the great river and its tributaries open to the navigation of the world.

Since 1862 the navigation of Peruvian territory has been carried on by their own vessels without intermission, in conjunction with a line of steamers passing from the Brazilian frontier to Pará. In the same year (1862) arrangements were made in England for the construction of a floating dock, and the establishment of a factory, to meet the wants of increased commerce, under the direction of Mr. Daniel Clark, chief engineer and director. Since that time great progress has been made in the province of Loreto, particularly at Yquitos, where the factory is established and the floating dock being built. Instead of little more than a few Indian huts, a large and populous colony is springing up. European labour has been introduced, mechanics of good ability have been secured, and to-day the engineering predominance of Great Britain may be seen as a prime mover in civilisation on the mighty Amazons. We must not omit to notice two small steamers intended specially for the exploration of the smaller rivers that flow into it, named the *Napo* and *Putamayo*, constructed by Messrs. Samuda and Co., with engines, worked at high pressure, by J. Penn and Sons, and despatched to Pará, where they were put together.

With the intention of further perfecting communication between the Atlantic and the interior of Peru, the *Putamayo*, under the orders of Captain Vargus, was despatched from Yquitos, on the 25th of June last, to explore the rivers Ucayali and Pachitea. After having navigated the river Ucayali and entered some sixty miles into the Pachitea, two of the officers, Tavira and West, who wished to open negotiations with the Indians, went on shore, and while in the act of presenting them with beads they were cruelly

* Two Englishmen, serving as Engineers on board the Peruvian vessels.